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Farm Mechanization In the Developing Countries

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In this issue:

2 The Role of Farm Mechanization in the Developing Countries By Lyle P. Schertz

5 U.S. Tallow and Grease in the Export Market By Ivan E. Johnson

6 Japanese Milk Market Swamped
Record Australian Rice Crop
Austria Fears Hog-Market Jam

7 Libya—Profile of a Promising Farm Market By Paul J. Ferree

10 Second Record Cattle Sale to Chile
U.S. Prize for Top Ecuadoran Bull

11 Caribbean Area Warmly Greets Triple Header U.S. Food Show
Camera Roams U.S. Exhibit at Paris Food Show

12 First Rent-A-Train Speeds Grain to Export Markets

13 Poultry "E" Awards for Innovation Leading to Increased Sales Abroad

14 Crops and Markets Shorts

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The Role of Farm M

By LYLE P. SCHERTZ, *Deputy Administrator*
International Agricultural Development Service

The developing world in this past year has harvested record-breaking cereal crops. These give encouragement that the per capita agricultural production of recent years will accelerate in the near future.

The new technology that contributed to the increased production in agriculture—such as high-yielding grain varieties and wider use of fertilizer—may bring a need for more mechanized agriculture in the developing countries. Scientists of the Ford and Rockefeller Foundations have developed new varieties of wheat and rice whose yields are not just 10 and 20 percent greater than traditional varieties, but as much as two and three times as great. They mature faster and flower and fruit in a given period of time after planting with much less dependence on day length than most traditional varieties.

Further breakthroughs in food production have come with other high-yielding varieties. India developed an ADT-27 rice; USDA, the Agency for International Development, and other groups produced corn hybrids in Kenya. Sorghums and dwarf wheats were developed in the United States, and the Rockefeller Foundation developed improved corn varieties in Mexico.

But as far as food production is concerned, the dwarf wheat and rice are the major innovations. In 1967-68, 17 million acres of these new varieties were growing in Asia.

These high-yielding varieties raised exciting possibilities for tropical agriculture. In fact, high-yielding cereals may prove to be the most significant development for Asia since World War II. They have the potential of influencing the lives of all Asians. And they will sharply affect the resource mix, or inputs, required to make Asia a region of the world without hunger.

Opportunities for mechanization

Introducing and developing these high-yielding varieties brings mechanization—the use of tractors, power tillers, irrigation pumps, and related equipment in farm production—sharply into focus.

Efficient plowing with moldboard plows, drilling of seed to uniform depth, and placing of fertilizer at optimum location in relation to the germinating seeds have a much larger impact on the yields of high-yielding varieties than on the traditional varieties which have a lower potential yield.

The much shorter growing season for the new varieties means that in many cases they will ripen during rainy periods. For example, the IR-8 rice being introduced into Viet-

How developing nations of the world respond to the challenge and opportunities of farm mechanization will significantly influence their success in meeting the increasing food needs of their populations.

rm Mechanization in the Developing Countries

nam matures in 120-125 days in contrast to the 180 days required by the native varieties. These possibilities create a need for threshing equipment that can efficiently harvest the grain while it is high in moisture and other equipment that can quickly dry it. The shorter growing season of the new varieties and their ability to mature with less regard to day length increase opportunities for double and multiple cropping. As soon as the first crop is harvested, another may be planted to be followed by still another, if water is available and if harvesting, land preparation, and planting are done quickly. Alternatively, sorghums, wheat, or potatoes can be planted after the rice is harvested; or they may be interplanted among the rice crop before rice harvesting. IR-8 rice followed by grain sorghum permitted to ratoon (sprout) three times has produced over 20 tons of cereals per hectare in 365 days in the fields of the International Rice Research Institute in the Philippines.

The availability of machinery may determine whether individual producers can realize these kinds of payoffs in their farming. With traditional varieties delays in starting another crop are not important—the land would be idle anyway. But with the high-yielding varieties that can be grown year round, each day of delay means 1 day of lost crop production. With 120-day rice capable of yielding 5 tons per hectare, almost 100 pounds of paddy (rough rice) per hectare per day are at stake.

The new rices and wheats are also sensitive to water availability. The high potential yields offer strong inducement for farmers to use machinery to improve water management. Land leveling, terracing, well-drilling, and water pumping have much larger payoffs with crops having potential yields of 4 to 7 tons per hectare than with only 2 tons.

New marketing problems

The question of mechanization comes sharply into focus also when marketing problems are considered. Even modest increases in production mean large relative increases in the marketable surplus which must pass through marketing channels. For example, if a farmer who traditionally produces 100 bushels of grain—and uses 80 bushels to feed his family—increases production to 140 bushels, he has three times as much surplus grain to sell.

Farmers will need more efficient equipment for marketing their products. The size and speed of ox carts limit their potential in handling a sharply increased crop. Further, the huts and houses of peasant farmers do not permit storing large amounts of grain, which would expedite orderly marketing throughout the year.

Grain handling beyond the farm delivery point will also mean increased requirements for machinery. The payoff from storage, drying, and hauling equipment increases sharply as marketable supplies increase.

The current degree of farm mechanization varies widely among the regions of the world. Almost 95 percent of the world's tractors are in the developed countries. The developing countries, according to FAO estimates, had just over 800,000 tractors in 1965. The annual increase has been a relatively modest growth of less than 40,000 or 4 to 5 percent per year.

Who has the machines

Within the less developed world, Latin America has by far the largest ratio of tractors (five) per 1,000 hectares of arable land. The Far East and Africa had less than one per 1,000 hectares. In contrast, Western Europe had 42. Overall, the developing world had one tractor per 1,000 hectares; the developed world had 19.

In most developing countries where increased modernization would help overall development plans, guiding policies have been largely lacking. Many complex and conflicting factors require consideration in developing policies and programs regarding mechanization. These factors might most simply be grouped into three principal categories—cost of mechanization, payoff from mechanization, and effects of mechanization on unemployment.

Key questions regarding the cost of mechanization include: What is the potential size of the market for machinery? What is the availability of imported machinery? Are raw materials for the manufacture of farm equipment available indigenously—for example steel? Is fuel available within the country or must petroleum be imported? What would be the effect on foreign exchange requirements? How well developed is a system for supplying spare parts and making repairs, and what costs would be involved in making it effective? How much training would be necessary for farmers to properly operate the equipment? Does the political and economic situation permit the development of private initiative in procuring, manufacturing, assembling, and distributing machinery? Are credit and savings available to facilitate the distribution of machinery?

The answers to these questions are important in evaluating the cost of mechanization to an economy as a whole, as well as the cost of machinery to the farmer. Each country will logically appraise these things differently and will evolve its own mechanization policies and programs.

The payoffs from mechanization can also be very significant. Mechanization can, for example, permit the completion of tasks with more precision, accomplish work more quickly, develop resources not presently being utilized, and accomplish tasks not possible with traditional techniques.

Individual reports and studies indicate a high payoff for mechanization.

A 1965 Ford Foundation study in New Delhi—one of the few that relate costs to returns—estimated the annual return to the purchaser of a three-row grain drill. The drill, which permitted side placement of fertilizer, increased wheat yields 12.5 percent and decreased labor requirements for fertilizing by 39.5 percent. The return was 13 percent with 4 acres of wheat, 59 percent with 10 acres, and 100 percent with 15 acres. Further, the drill can handle 50 acres in a season. A one-row planter with metering and side placement of fertilizer increased corn yields 40 percent and decreased hours 36 percent from those of conventional planting.

Reports from the Punjab indicate that custom rates for tractor use are high enough to permit their owners to recover the original cost within 1 year.

Generally, in developing countries, the supply of equipment is insufficient to satisfy the demand at present prices, and it must somehow be rationed. This can be done administratively, such as through the use of waiting lists; or it can be done through higher prices, letting supply and demand set the price.

Individual countries should consider the advantages of higher prices if foreign exchange must be limited for purchase of machinery.

Consideration should also be given to making foreign exchange available for transportation equipment. While tractors are designed for field work, they are often used for road traveling. Transportation may, in the view of some, constitute unnecessary use, but farmers clearly place a high economic value on using tractors for this purpose.

Labor and employment

George Giles, in the President's Science Advisory Committee's Report *The World Food Problem*, estimated for selected countries and regions of the world the available horsepower from tractors, animals, and humans. These estimates point up several important factors relevant to the relationships between mechanization and employment.

First, total power availability in the developing countries (including human power) is, as would be expected, extremely low compared to countries such as the United Kingdom, the United States, Israel, and Japan.

Second, even in the developing countries, less than two-fifths of the available horsepower for agriculture is supplied by humans. Thus we are clearly discussing a situation in which a substantial proportion of horsepower used is already being contributed by capital investments in the form of tractors and livestock.

Third, experiences of some countries indicate that capital investments in machinery substantially above the levels that generally prevail in the developing countries are not necessarily inconsistent with large inputs of labor. Human labor in Japan, Taiwan, and Egypt supplies substantially more horsepower per unit of land than in India and in Asia as a whole. But Taiwan and Egypt also have capital investments in machinery substantially above levels in the developing countries. And Japan has similar investments that are among the highest in the world.

Fourth, even doubling human labor available for agriculture would not significantly increase the power availability. For example, the doubling of human power in India would raise it to 0.11 horsepower per hectare, a level still 25 percent below that presently being supplied by animals.

Developing countries should keep in mind the role which individual farmers, private dealers, and private manufacturers can effectively play in the mechanization process. Information on the use of machinery is scarce in these countries, and individual planners or government officials will find it difficult to anticipate the precise type of machinery that can most economically be utilized; agricultural diversity suggests that a variety of equipment will be required. These needs will also change as technology continues to change.

The individual farmer should have flexibility in the selection of his machinery. He is in the best position to determine which machines can most effectively increase his economic return.

Private enterprise and governments

Policies should permit the procurement, production, and distribution of machinery by private firms. Many mistakes will undoubtedly be made in mechanizing agriculture—whether machinery is produced, procured, and distributed by government or by private firms. For example, government officials, in an effort to avoid mistakes, often restrict amounts and kinds of products available, thereby bypassing important opportunities.

Private firms supplying imports as well as firms manufacturing within the country should be expected to make relatively large expenditures on in-country research projects. The research should focus on economic questions related to farm mechanization, as well as agricultural engineering problems.

The potential for one factor supplying the total or even a significant proportion of the demand of individual countries raises problems with respect to monopolistic pricing. Countries are naturally reluctant to promote these conditions. At the same time inefficiencies of large-scale government monopoly in production or distribution of machinery could be very costly. Government-owned production facilities are well known for the manner in which they are often insulated from the discipline of market demand and supply, with resulting inefficiencies.

Advocating heavy involvement of private enterprise does not mean that governments do not have a significant role in mechanization. They do. Government research and training programs on mechanization should be expanded with much of the work closely linked to testing and development of high-yielding varieties.

Attention should also be given to encouraging the production of ancillary equipment and supplies as well as the development of repair facilities. For example, tractor production in one developing country is seriously restricted by the limited supply of tires. And we are all acquainted with stories of tractors idle because of unavailable parts.

Governments undoubtedly will be involved in activities such as allocation of foreign exchange, but this involvement should permit the efficient reflection of individual farmer demands. Governments also have a responsibility to foster pricing and distribution systems which prevent inefficiencies in equipment sales.

Further, in working with private firms—either importing or producing machinery domestically—governments can see that excessive proliferation of types of machinery is avoided without unduly stifling competition.

Past and prospects

U.S. Tallow and Grease in the Export Market

By IVAN E. JOHNSON
Livestock and Meat Products Division, FAS

Foreign trade in U.S. tallow and grease has taken giant steps forward since the early 1950's, largely as a result of intensive market development efforts. Today that trade has more than doubled to almost one-half of our production. Sales peaked at 2.4 billion pounds in 1964, last year totaled 2 billion, and consistently account for about two-thirds of total world trade. As important as the sheer volume of this trade is its profitability. The bulk of shipments are sold for dollars through commercial transactions, which marks a favorable contribution to the U.S. balance of payments.

World tallow and grease production

From 1956 to 1960 world production of tallow and greases averaged 6.3 billion pounds. This rose to a record-high 8.8 billion pounds in 1964 and declined slightly in 1965 to 8.5 billion. In 1967 and for the first 8 months of 1968, output has again increased to record levels.

The major tallow and grease producing countries of the world outside of the United States are Australia, the United Kingdom, France, Argentina, Canada, and the USSR. Countries not among the world leaders but still significant producers are New Zealand, Brazil, West Germany, and Italy.

World markets and trade policies

The United Kingdom and Western Europe are important to the United States as outlets for animal fats and proteins. However, imports by these countries have declined in the last few years owing to increased domestic production and the encroachment of detergent powders on the market for laundry soap. Nevertheless, these areas promise continuing markets for American animal-rendered products. While synthetic detergents in Europe—as in the United States—have largely replaced laundry soap, consumption of tallow-based quality toilet soap is increasing. This follows the usual pattern of rising living standards and growing industrialization. European usage of animal fats in poultry and livestock feed should offset some of the loss to the soap and detergent industry, and there is definite expansion in the production of fatty acids from tallow and greases.

Japan continues to be the major export market for U.S. tallow and grease, taking nearly a fourth of U.S. exports.

The U.S. rendering industry is fortunate in that there are currently few restrictions on tallow and grease in foreign markets, and import duties are generally low. Some countries restrict entry of tallow from foreign sources completely to protect their domestic vegetable oil industries—Mexico, for example—and some impose import duties to accomplish the same objective, as the Philippines.

More and more countries such as these, however, are beginning to recognize that the use of animal fat in feed for cattle, swine, and poultry has proved successful so that more lenient entry policies are being considered for animal fat imported for this purpose. Although standard practice in the United States by our feed manufacturing industry, this comparatively new use of fat by foreign countries has proved a major breakthrough in the growth of U.S. renderers' exports and in the development of our export trade in these commodities. Primarily as a result of the National Renderers Association/FAS market development efforts, Japan has eliminated the import duty on animal fat imported for use in feed mixes, and Taiwan has taken a more liberal attitude on the import of fat for use in feed.

Of some concern for the future is the development within the Common Market of protectionist sentiments and restrictive trade policies as reflected by special assessments of fees and import duties. For example, the imposition by Italy in February 1968 of a veterinary inspection fee on tallow and meat and bone meal has adversely affected exports to Italy.

Market development

Intensive market development beginning in the mid-1950's has been largely responsible for the striking advance in the U.S. trade of tallow and grease through 1967. The initial phase of this effort to establish overseas markets commenced at that time with surveys of world production, supply trends, and the outlook for exports of U.S. animal fats and proteins. In 1956 a team made up of members of the National Renderers Association and FAS officials began a joint promotional-educational program abroad. Their goal was to increase sales of U.S. rendered products through acquainting fat-deficient nations with the benefits of importing and using U.S. tallow, greases, and other rendered products.

This developed later into a formal agreement between FAS and NRA in 1962 with the objective of expanding overseas outlets for U.S. animal fats and proteins. Overseas promotional efforts include participation in trade fairs, seminars, industry conferences, and meetings with government officials. One of the association's most widely used services is the distribution of literature in several languages on the uses of rendered products. Advertisements in foreign languages are also used in overseas trade publications to attract interest to both American rendered products and techniques.

Of new and growing importance are the feeding trials, which are carried out in cooperation with government agencies and trade groups. With feed production in Europe and Japan reflecting tremendous expansion, the possibility of adjusting feed formulations to include a higher percentage of animal fats and animal protein supplement is very real.

Up until now most of the market development work has been in Western Europe and Japan. This was a logical concentration because these have been both good dollar markets and countries concerned with the four end uses of tallow and grease promoted by the United States: As fat in feed for livestock and poultry, as the primary ingredient of toilet soap, as milk replacers, and as a commodity with many potential uses in industry.

At the same time, the opportunity to export tallow under the Food for Freedom program has not been overlooked. Fiscal year 1969 sales of tallow under Public Law 480 are expected to equal approximately 15 percent of total exports.

U.S. tallow and grease are currently exported to approximately 50 countries. Potential for further market expansion lies in the Near and Middle East, Africa, Latin America, and the Far East. Studies of these areas indicate that U.S. tallow is recognized there as a superior product.

As individual country economies develop and living standards climb, it seems evident that per capita consumption of tallow-based toilet soap will rise. The principal outlet for tallow in these areas for the immediate future is in the production of soap; market prospects there for other uses of animal fats are not as favorable as in those countries that are more economically advanced. The near-term outlook for significant use of fat in feed for livestock and poultry is not too promising because in many of the so-called emerging countries the livestock industries are not very advanced. Also, facilities for crushing oilseeds are such that most formulated feeds retain more natural fats than they do in the more economically advanced countries.

Current tallow market prices

The total estimated world production of oilseeds, oils, and fats in 1968 is expected to be more than 80.3 billion pounds. It is this record-breaking availability which has brought a decline in the price of most vegetable oils, marine oils, and animal fats.

Tallow prices have declined to their lowest levels in many years, although there was some improvement late in October. A basic underlying cause for this weakness in price is that world production of oilseeds, oils, and fats has trended upward since 1959 and has been setting new records in recent years. U.S. production of animal fats is at a high level and is expected to keep pace with increasing animal slaughter.

The outlook for the foreseeable future seems to be for a continuation of tallow prices at depressed levels. One intriguing prospect for alleviation of the downward price pressure is the hope that successful research will lead to new uses of this product. The Fats and Proteins Research Foundation, Inc., which is supported by NRA, is actively pursuing research toward this objective. One outlet which offers promise is as an additive to concrete. Utilization of tallow in waterproof concrete mixes could open a tremendous market and would help strengthen prices.

Japanese Milk Market Swamped

Processors of milk products in Japan are beginning to suffer from much-increased supplies of raw milk at the same time that demand for drinking milk and other products is static. Some of the factors behind the jump in milk production are increased dairy cattle numbers and a relatively cool, damp summer. While the weather has stimulated output, it apparently has caused consumption to lag. Another cause of sluggish disappearance may be rising retail dairy-product prices which, in turn, encourage even more production.

Because supplies of raw milk are now much larger than demand for drinking milk (the major use in Japan), the excess is channeled into the manufacture of butter and powdered skim milk. As a result, supplies of manufactured milk products jumped a drastic 18.6 percent in the first 7 months of 1968 in comparison with the same period in 1967.

Japanese milk processors are caught in an unenviable position. Most have annual contracts with agricultural cooperatives to buy milk, and they cannot refuse to buy even if they have large stocks of products, such as butter and skim milk, on hand. As a result, almost all dairy products manufacturers are burdened with such heavy inventories that their profits are being decreased. Some manufacturers reportedly hold more than 3 months' supplies of dry milk and butter.

The Livestock Industry Promotion Corporation, a governmental agency, is being asked to buy surplus milk products by the dairy products manufacturers. However, the Corporation already holds 15,000 tons of powdered skim milk.

—Based on dispatch from ELMER W. HALLOWELL
U.S. Agricultural Attaché, Tokyo

Record Australian Rice Crop

Australian rice production during 1968 climbed again and for the seventh consecutive year set a new record. The 1968 harvest was about 218,000 long tons of paddy (the 1967 crop was 212,000 tons). Australia is a relatively minor but growing rice producer in the world.

Most of the 1968 Australian rice was grown in New South Wales (217,000 tons), but small crops were harvested in Queensland, Western Australia, and the Northern Territory. In spite of restrictions on irrigation water because of drought in some areas and difficult harvesting conditions in others because of lodging and heavy rains, average yields in New South Wales were near a record—2.85 long tons per acre.

At the same time that Australia's largest rice crop was being grown and gathered, exports of Australian rice were active. During the 1967-68 marketing year, 100,515 long tons of rice were shipped from Australia—mostly from the bumper 1967 crop.

Because of the success of this year's rice crop and 1967-68 sales, Australian farmers will probably increase production next year, and total Australian paddy rice supplies for the 1969 season are forecast at about 232,000 long tons.

—Based on dispatch from FRED M. LEGE III
U.S. Agricultural Attaché, Canberra

Austria Fears Hog-Market Jam

Austria is fearing a pork glut next spring because of the present number of animals under 6 months of age and the number of bred sows. Compared with September of 1967, numbers of pigs under 6 months were up 8 percent to 1,401,000, and bred sows were up 7 percent to 160,000.

With breeding rates and numbers of young pigs as high as they are, the Austrian hog industry may be facing a period in the spring and summer of 1969 of oversupplied markets and depressed prices similar to the hog surplus of 1965.

Austrian officials are viewing the hog industry's failure to produce with an eye to the market with some pessimism. The director of livestock operations in the Lower Austrian Chamber of Agriculture has predicted a "mountainous pork surplus" for next spring unless some 50,000 young feeder pigs are shipped out of the country during October and November of this year. He also noted that in 1965 it was necessary both to divert 100,000 hogs to cold storage and to export to stabilize pork markets. Even more drastic measures may be necessary in 1969 because pork marketing will be larger than in 1965 but no large increase in pork consumption is foreseen.

—Based on dispatch from HENRY A. BAEHR
U.S. Agricultural Attaché, Vienna

Libya—Profile of a Promising Farm Market

As per capita income rises and per capita farm production decreases, this country has been increasing its imports of agricultural products.

By PAUL J. FERREE
U. S. Agricultural Attaché
Rabat, Morocco

This report on Libya's agriculture is based on available reliable statistics and information plus the author's evaluation of conditions for which data are nonexistent, insufficient, or contradictory. The author, who has been U.S. Agricultural Attaché for Morocco, Tunisia, and Libya since 1965, presents this background information as an aid to prospective agricultural exporters to Libya. As reported in Foreign Agriculture, *July 8, 1968, page 8, Libya is one of a number of small countries that have substantially increased their cash purchases of U.S. farm goods in recent years.*

In Libya—roughly 10 times the size of New England, current population about 1.75 million—food production has always been a struggle because of limited soil resources and a predominantly arid climate.

More recently, since the discovery of petroleum in the late 1950's, agriculture has had difficulty in even maintaining its status quo. An estimated 60 percent of the country's food and agricultural raw material requirements must now be imported.

With continuing migration of rural workers to cities and jobs in oilfields, industries, and construction projects, the 62 percent of the work force employed in agriculture in 1960 has declined even more in recent years. Despite the contracting of foreign labor for farm work, a policy of subsidizing agriculture, and the initiation of costly resettlement projects, the per capita crop and livestock production continues to decrease.

At the same time, due to the economic boom brought on by petroleum, the net per capita income has grown faster than that of any country in Africa; in 1967, it amounted to over $800 (based on recently revised gross national product figures). The balance of trade has been favorable since 1963, the balance increasing in each succeeding year.

As a result, Libya is a good cash customer for a wide range of agricultural imports. The size of these imports has ballooned in recent years, reaching nearly $80 million in 1967. Since Libya's importers are quality and brand conscious there is no reason the United States should not push for a greater share of this growing market than the $3 million worth sold to Libya in 1967.

Recent agricultural trade

In the past 3 years, Libya's imports of agricultural products have increased significantly, both in value and as a share of total imports (see table, p. 8). Value of these imports increased by 47 percent in 1966, another 37 percent in 1967.

In 1967, Italy was Libya's largest supplier of both total and agricultural imports and the principal market for its exports. The United States was the second highest supplier of total imports, but ranked only 14th as a source of agricultural products. It furnished some canned and packaged grocery items and had a substantial share of the Libyan market for feedgrains and tobacco products. But it was the leading supplier of only a few minor items, such as chickpeas and pepper. It was the second largest supplier of cheese.

In 1967, most valuable agricultural imports by far were wheat flour, sheep, olive oil, tea, and refined sugar. Values for import items that reached $1 million in 1967:

	Million dollars		*Million dollars*
Wheat flour	9.9	Camels	2.2
Sheep	8.4	Apples	2.2
Olive oil	7.4	Tomato puree	1.7
Tea	5.7	Cheese	1.7
Refined sugar	5.3	Tobacco, raw	1.7
Barley	3.4	Wheat grain	1.4
Cattle	3.3	Beef	1.3
Condensed or evaporated milk	3.1	Mutton and goat meat	1.2
Rice	2.8	Fresh milk or cream	1.2
		Bananas	1.0

Libya's agricultural exports—mainly citrus fruits, peanuts, castor beans, and animal skins—have declined to an infinitesimal proportion of total exports. Largest farm export item is unshelled peanuts; value of this item in 1967 was $657,368.

Agricultural situation

Statistics are insufficient to permit an accurate analysis of Libyan agriculture in recent years or to estimate production precisely for this year. About all that can be said in general is that a specific year is good, bad, or in between. The consensus is that 1966-67 was a good year, 1967-68, mediocre.

Following is the estimated production and trade position for some of the products within each major farm sector.

Grains and pulses. At best Libya produces only about one-third of its total *wheat* requirements. Its output amounts to about 40,000 to 50,000 metric tons annually, mainly durum type. It imports about 100,000 tons of flour and an average of 10,000 tons of wheat.

Barley production appears to average about 100,000 tons per year. Imports have risen significantly recently, amounted to over 42,000 tons in 1967. Imports of 50,000 to 75,000 tons of high-quality barley for feed will probably continue.

Total *pulse* production is believed to be slightly over 2,000 tons a year. Imports in recent years have averaged 3,000-4,000 tons, about half chickpeas.

Oilseeds and nuts. Production of *peanuts* normally ranges from 11,000 tons to 14,000 tons, unshelled basis. This is one of Libya's main export crops, but exports have declined

LIBYA'S TRADE, 1965-67

Year	Imports		
	Total	Agricultural	Agricultural share of total
	Million dollars	*Million dollars*	*Percent*
1965	321.5	39.5	12.3
1966	406.5	58.2	14.3
1967	478.1	79.7	16.7

Year	Exports		
	Total	Agricultural	Agricultural share of total
	Million dollars	*Million dollars*	*Percent*
1965	792.4	4.3	0.54
1966	986.3	2.7	.28
1967	1,172.7	2.2	.19

from 8,000-10,000 tons in the late 1950's to about 2,000-3,000 tons at present. Much greater quantities are being consumed locally.

Production of *almonds* probably amounts to about 4,000-6,000 tons, unshelled. Libyans consume virtually the entire production, usually import several hundred tons more.

Some 1,000-2,000 tons of *castor beans* are produced annually according to some estimates, but much more would be produced if there were sufficient labor available to harvest castor beans that reportedly go unpicked. Virtually all production is exported.

Fruit. Practically no *citrus* is imported, but 1,500 tons to 3,000 tons are exported annually. Exports are mainly oranges. *Dates* are an important item in the diet of Libyans, particularly in the south. Libya is believed to produce about 40,000 tons of dates annually and to import some 400 tons.

The *grape* vineyards of Libya were planted by Italians, with particular emphasis on *wine* production. With the departure of many of the Europeans, increasing scarcity of labor, and the fact that Moslems do not consume wine, production of wine has declined. Apparently annual production of table grapes continues at about 2,000-2,500 tons per year. There are no exports of either grapes or wine. A few tons of table grapes are imported and around 25,000 gallons of wine.

In 1967, Libya imported 17,836 tons of *other fresh fruit*, including 10,896 tons of apples, 1,408 tons of quince and pears, 5,510 tons of bananas, 12 tons of fresh figs, and 10 tons of other fresh fruit. Also about 200 tons of *dried fruit* were imported.

Vegetables and truck crops. Except for *potatoes* and *onions*, very little fresh vegetables are either imported or exported. Some 5,000-6,000 tons of onions are imported annually. Some 200-230 tons of potatoes for seed are imported each year from Denmark and Romania and 2,000-3,000 tons of potatoes for food are usually imported, largely from Holland. In 1967, however, imports of potatoes for food dropped to 645 tons.

Olives and olive oil. Although olives and olive oil are second only to cereals in importance in Libyan agriculture, there is little reliable information on their present status. Olive oil production ranges from 3,000 to 21,000 tons annually. Oil production from the very large 1967 olive crop was estimated at about 15,000 tons; it could have been higher if sufficient pickers had been available. This year's production is expected to be about one-fourth that of 1967.

Olive oil is about the only source of fat for the Libyan people, with the exception of local butter oil. Annual olive oil consumption is probably about 16,000-18,000 tons. Some 5,480 tons of olive oil were imported in 1966, and 10,694 tons in 1967, largely from Spain.

Tobacco. The entire tobacco sector is under the control of the Libyan Tobacco Monopoly. The Monopoly registers some 4,000 tobacco growers and regulates their production. It also processes all domestic tobacco and controls imports and exports. Production has been increasing steadily, and it is estimated at about 2,600 tons for 1968—about half snuff and half cigarette tobacco. Imports of cigarette tobacco amount to 500 tons to 1,000 tons a year.

Livestock and animal products. Libya is estimated to have around 1.3 million head each of *sheep* and *goats*, about 100,000 *cattle*, 290,000 *camels*, 35,000 *horses* and *mules*, and 130,000 *donkeys*. Most of this livestock is still herded and cared for in the traditional manner by nomadic herdsmen. Whatever the accuracy of the estimates, it is generally accepted that there is too much stock for the condition of the range. The pasture lands of Libya have been abused by overgrazing for centuries.

Libya has a very small but growing modern *dairy* industry. Libyan statisticians estimate total milk production from cows at about 2.4 million gallons. Much more by far is produced by sheep, goats, and camels. It is unlikely that much of this milk enters commercial distribution.

Poultry production is growing, with several modern chicken farms now in evidence around each of the major cities. This industry probably contributes about 2,000 tons of meat and 1,600 tons of eggs per year.

In terms of total animal foods consumed in 1966, Libya appeared to produce about 75 percent of its meat, the rest being supplied through imports. In 1967, live animal and meat imports increased by more than 80 percent, indicating a significant increase in consumption, declining local slaughter, or both. For eggs and dairy products, Libya appears to be producing about half of its total requirements, but imports continue to grow.

Commodity distribution in Libya

Most commodities are marketed in Libya by private business firms, which for the most part are Libyan or Libyan affiliated. After this year all importing and distribution firms must have a majority of Libyan participation. Local tobacco marketing is handled by the tobacco Monopoly.

Retail outlets vary considerably—from the most modern supermarkets handling a broad line of sophisticated imported products to the traditional village marketplaces (souks) that cater to peasants. In between there are numerous small shops, patterned on the former Italian-owned stores; these carry a wide variety of merchandise. The shops and souks hold more appeal for the mass of Libyans; apparently, the glass of tea and latest gossip available there more than make up for the inefficiency and generally higher prices. Modern markets and specialty stores largely serve

the limited number of higher paid, educated Libyans and Europeans.

Price increases and inflation are problems that have faced Libyan Government authorities since oil brought prosperity to the country. Despite some government effort to regulate food prices, the index of this sector has increased at about the rate of the general average. There was a steady increase in the food cost index during 1965 and 1966, then a decline in 1967. By June 1968, price increases had brought the index to a level nearly equivalent to the previous high.

Storage of grains and food commodities is no longer a serious problem although port receiving and handling facilities are still insufficient to handle a large volume of imports. Wheat and grain must be received in bags since there are no port facilities for unloading and handling bulk grains. Adequate cold storage facilities exist since warehouses were built recently in Tripoli and Benghazi.

Agriculture-related industry

Agricultural processing and industrialization is not yet well developed, although the Industrial Development Organization is making efforts to advance this area. There are no cotton spinning plants and only a relatively few weaving establishments that use imported yarn. Home weaving and village rug making have recently declined substantially.

Libya has only two commercial-size flour mills, both in Tripoli; one of these has been idle for 8 years. Several pasta factories are in operation, some of them quite modern. The government has two 5-ton-per-hour feed-mixing plants nearing completion—one near Tripoli, the other near Benghazi.

There is a new modern olive oil refinery in Tripoli and numerous small olive oil crushing establishments throughout the country. A castor bean crushing facility built several years ago has not yet been used for castor. It was operated for a short time this past year to crush about 1,000 tons of second-grade peanuts.

Other food-processing establishments include six private firms that pack, freeze, or can fish; a new government sardine plant being built near Tripoli; a relatively large tomato industry made up of eight processors which produces juice and tomato paste; a plant that produces citrus juice and compote; four wineries that produce quality wines for local consumption.

Other agriculturally related industries include two tanneries, a shoe factory, and a number of soap plants. The tobacco Monopoly has just built a new factory in Tripoli that produces about 3,700 tons of cigarettes, cigarillos, cigars, pipe tobacco, and snuff a year.

Agricultural development

Only 5 to 6 percent of Libya's total 675,000-square-mile area is of use for agriculture; less than one third of this is available for annual and perennial crops. Crop growing is conditioned on the availability of water, the country's most precious agricultural resource. There are no permanently flowing rivers and no major irrigation projects.

The four general agricultural regions are the coastal plain, the low mountains, semidesert, and desert. The moderate amount of rain that comes mainly during October through March provides for some crop production in the coastal belt and the low mountains. A relatively normal crop of cereal grains can be expected about 6 years in 10 in the rainfed coastal areas of Tripolitania and the higher plains of Cyrenaica. Somewhat more dependable production of fruit, olives, vegetables, and some bread grains is carried out on an estimated 300,000 acres of irrigated land and small patches of land cultivated in beds of streams that are dry except in the rainy season.

Libya is trying to use its wealth from oil to transform the country economically. By law, 70 percent of the government's petroleum revenue is to be used for such development. The blueprints for development activities are Five-Year Plans, one of which is just ending, another soon to be put in operation. In the budget for the 1963-68 Five-Year Plan, agriculture ranked second only to public works.

So far, however, agriculture has responded slowly to development planning—even though it is probably the most subsidized in the world. Agricultural productivity does not appear to have increased in recent years, and the country's dependence on agricultural imports continues to grow.

The 1963-68 plan will end significantly short of attaining its agricultural goals, despite the fact that the Libyan Government enlisted the help of several hundred foreigners in administrative positions and contracted much of the work to foreign companies and laborers. Some of the reasons for the failure to reach goals: Delays in drawing up and approving projects; apparent lack of coordination among different agencies concerned with agricultural development; severe lack of supervisory personnel and laborers.

Although details of the 1969-73 plan are not yet available, indications are that much more coordinated effort has gone into the plan. Statistical data to support planning are still deficient, but the Government wishes to give a high priority to continued settlement activities and strengthening agriculture. The overall goal is to produce 60 percent of Libya's food needs by 1973 instead of the present 40 percent by increasing irrigated land by 25 percent (an additional 74,130 acres), land reclamation and settlement, and improved efficiency throughout agriculture.

Malagasy Republic Gets Road Aid

The Malagasy Republic—perhaps better known as Madagascar—is the world's fourth largest island. Its terrain is rugged, and its 6.6 million population is unevenly distributed. As one might guess, it has an inadequate road network for farm-to-market operations and the requirements of economic development, including agricultural progress.

The World Bank Group is continuing its assistance to the Malagasy Republic in the form of financing worth US$8 million for the development of a modern road network. The new roads contribute to agricultural growth in the central plateau and in the northwest.

One of the roads to be built will extend 33 miles between Fanjakamandroso and Tsiromandidy. This road will considerably improve the connections between a rich agricultural area and the main cattle market. The other main road to be built with World Bank assistance is between Ambilobe and Ambanja, in an area that grows cash crops for export. The projects are scheduled for completion by the end of 1971. Chief export crops of this African country are coffee, vanilla beans, and cloves. Other foreign exchange earners are meat and meat preparations, sisal, sugar, dried lima beans.

Second Record Cattle Sale to Chile

The large-scale movement of U.S. cattle to Chile that began a year ago with a record sale of more than 5,000 Polled Herefords (see *Foreign Agriculture*, Dec. 18, 1967, and June 3, 1968) is rolling on with a second record sale—and is taking to the air. Up to 7,000 U.S. Polled Herefords are scheduled to be flown to Chile during the current fiscal year. Selection is underway in the United States, with shipments expected to follow purchases by about 4 weeks.

The new arrangement reflects the Chilean Government's satisfaction with the 3,540 U.S. cattle already delivered under the former one. Most of these animals have been resold to ranchers in the booming livestock Province of Magallanes, and their successful settling-in led to plans for the expanded purchases that are now going on.

Aiding in the new expansion as it did earlier is the Livestock Division of Chile's National Development Corporation (CORFO). The payment system will reportedly allow longer credit terms to farmers buying the cattle. The major innovation, however, is the delivery system. Use of air transport is expected to cut both delivery time and freight costs. According to Chile's *La Nación*, there may be possibilities of scheduling return shipments, on the same carriers, of high-demand Chilean produce such as fresh king crabs.

The original record sale was financed out of the $23 million loan made to Chile in 1967 by the U.S. Agency for International Development for use in the agricultural sector of the economy. Chile decided this fall to divert another $1 million from these funds and add this amount to the $2 million it had already set aside for purchases of U.S. cattle, for a total of $3 million during 1967-68 and 1968-69.

Both last year's sale and this year's resulted from joint market development efforts involving the American Polled Hereford Association, FAS, and Chilean Government and business leaders. On the basis of the performance turned in by the cattle shipped already, as well as the favorable terms and conditions being offered to farmers, Chilean officials are reported confident of takers for all the animals to be sent.

U.S. Prize for Top Ecuadoran Bull

At the 29th Coastal Livestock Exposition in Guayaquil, Ecuador, last month, Brahman cattle of U.S. lines won high honors, including the silver platter presented by the U.S. Embassy to the Grand Champion of all breeds.

Chosen as champion of champions this year as last was Piscano, owned by the Ingenio San Carlos. Junior Champion and Grand Champion of all male Brahmans was JDH Brazos Bill Manso, 18 months old, owned by Andrés Fernández Salvador. Reina, Grand Champion of all female Brahmans, has the same owner.

The show was sponsored by Ecuador's Coastal Livestock Association, at whose request FAS arranged to obtain the services of Robert E. Tate, General Livestock Superintendent of the San Antonio Livestock Exposition, as judge.

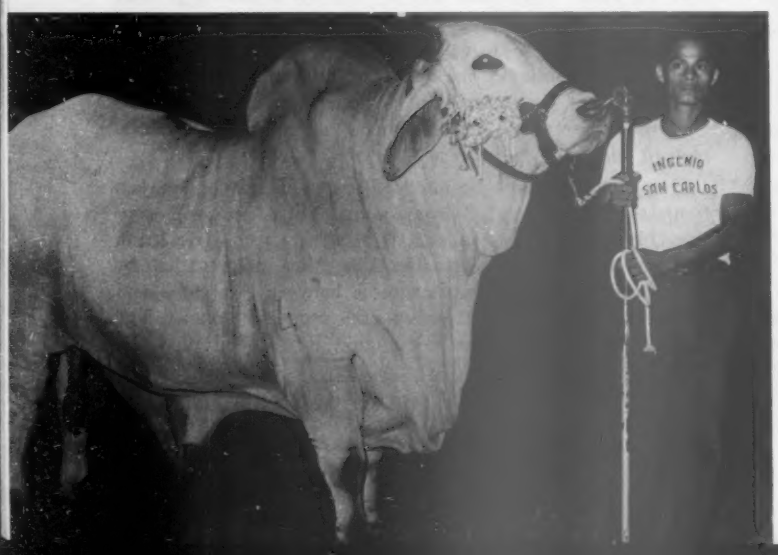
U.S. Beef in Japan

The interest generated for U.S. choice beef in Tokyo by the U.S. Trade Center Nutrition Show (Sept. 24-Oct. 4) carried over to the Osaka area. Requests by the Osaka meat trade to view high-quality U.S. beef were met by the Trade Center with a 3-hour showing there on October 25, featuring five cuts of beef—short lion, strip loin, top sirloin butt, beef tenderloins, and roast ready rib, with 40 pounds of rib roast cooked and displayed for sampling. Photo below shows guests making the taste test.

The invitation list included supermarkets, department store food sections, chef's associations, beef importers and distributors, hotel and restaurant managers, nutrition associations, mass feeding specialists, and cooking school officials. Beef for demonstration came from U.S. commissary supplies; roasts were donated by Oregon's Beef Council and its Cattlemen's Association.

Japan's Kobe beef is famous for quality; but there is not enough to meet the rapidly expanding Japanese demand. The U.S. sales effort emphasizes what U.S. beef can do to supplement—not substitute for—Japan's own beef output.

Below is Piscano, Grand Champion of the Guayaquil Coastal Livestock Fair. This handsome Brahman bull (whose U.S. origin shows in his branding) won his second straight championship this year.



Caribbean Area Warmly Greets Triple-Header U.S. Food Show

William Charron shows frozen Maine potato products to Trinidadian.

The first U.S. food promotion in the Caribbean market—three hotel exhibits in Barbados, Trinidad, and Curaçao October 28-November 5—won the lively interest of the Caribbean food trade and brought concrete results.

It was an experiment in "smaller market" exhibit techniques, and direct sales from the floor far outweighed the modest cost of staging the shows. Future sales resulting from the promotion are projected at more than $600,000.

More than 50 U.S. food manufacturers and exporters displayed and demonstrated some 150 food items at the three shows, which were cosponsored by FAS and the Grocery Manufacturers of America. With more than half the firms previously unrepresented in the area, many agents and prospective agents were lined up. Florida, Maine, Pennsylvania, Texas, and Virginia also had representatives present.

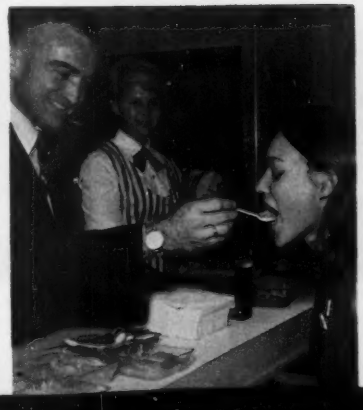
Particularly attractive to the trade were fresh apples and pears, potato products, canned fruits and vegetables (and convenience foods in general), pork products, and turkeys and turkey parts.

Mornings were free, so State and trade representatives used them for visits to trade contacts. This brought sales of some products not even included in the shows, notably peanuts and brood sows.

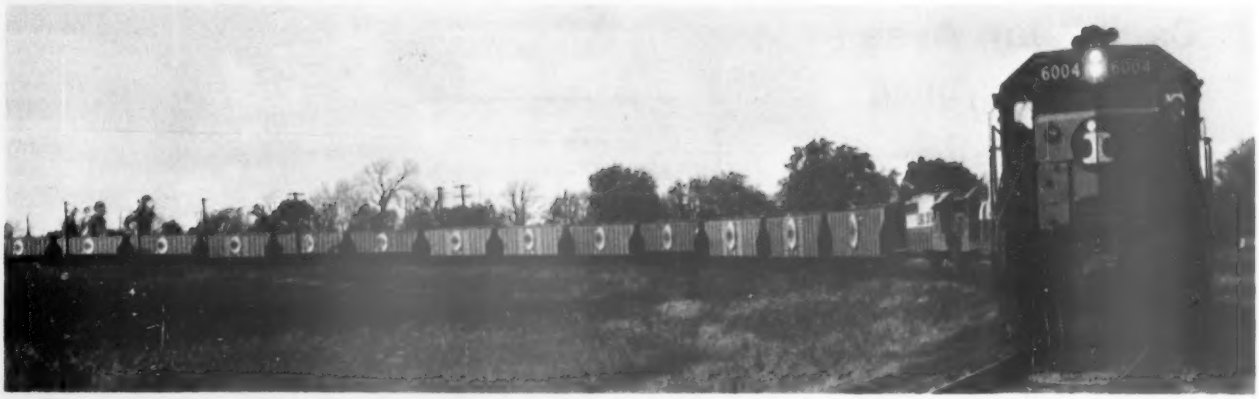
Admission was by invitation, but extensive local publicity—aided by the presence of Arkansas' poultry princess and cooking queen—spread promotional effects to the general public in the host cities and neighboring islands.

Camera Roams U.S. Exhibit at Paris Food Show

Samples now, sales soon was U.S. motto at Paris Salon International de l'Alimentation this month. Left, sampling rice; below, orange juice with happy agents.



Left to right, J. J. Spiruto of American Dry Pea and Lentil Council helps serve pea soup; T. E, Burleson, Jr., of U.S. honey industry, tempts a tempting visitor with comb honey; U.S. beefsteaks on the grill advertise their savory presence in smoke.



Rent-a-train loaded with Illinois corn begins its inaugural run.

First Rent-A-Train Speeds Grain to Export Markets

When a 115-car express train carrying 400,000 bushels of corn highballed out of Gibson City, Ill., last month bound for the port of Baton Rouge, La., another notable innovation in U.S. grain marketing was in operation. The rent-a-train, by applying the established rental pricing principle to rail movement of bulk commodities, lowers freight charges.

The first—and so far only—rent-a-train has been hired from the Illinois Central railroad (originator of the idea) by Cargill, Inc.—a major U.S. export firm. It is intended to serve grain growers and shippers in central Illinois by moving their crops to Gulf ports at more competitive rates, opening up to them a larger share of the export market.

End of the line for last month's inaugural shipment was a 56,000-ton cargo vessel waiting at Cargill's Baton Rouge export facility to carry the corn to Western Europe.

To make the rent-a-train plan work the firm that rents it must keep it busy. Cargill expects to operate its train on a 5-day round-trip schedule between Gibson City and Baton Rouge. To supply the storage and drying facilities required to make the operation economical and efficient, Cargill built a new inland export terminal at Gibson City. The terminal buys corn from country operators and assembles it for loading aboard the train, or stores it until time to load. Year-round use of all this grain-moving equipment offers one solution to perennial rail car shortages in the production area at harvesttime.

Above, dignitaries and the press watch the train being loaded; corn pours from inland terminal into hopper car. Left, at end of 25-hour run to Baton Rouge, conveyor moves corn to ship's hold.

Poultry "E" Awards for Innovation Leading to Increased Sales Abroad

Prime examples of U.S. firms showing expertise in producing hatching eggs and chicks for the foreign market are two recent recipients of the Presidential "E" award for excellence. These are the Tatum Farms in Dawsonville, Georgia, and the Hubbard Farms in Walpole, New Hampshire.

These two firms have joined eleven other "E" award winners in creating an expanding foreign demand for U.S. poultry breeding stock. Export sales of baby chicks, poults, and hatching eggs during January-September this year were valued at 21 million dollars, 14 percent ahead of the same period last year. If this trend continues, exports during 1968 will establish a new record.

A new exporter

An "E" citation was presented to Tatum Farms by Assistant Secretary of Agriculture Davis in view of the success of the company's export program, which was launched just 5 years ago. Today exports of baby chicks and hatching eggs earn the firm $1 million annually, about 50 percent of the firm's total business. Sales are made principally to Mexico, Central and South America, Bermuda, and the Caribbean area.

In the course of achieving this profitable sales position, Tatum Farms solved two formidable export problems. It offered convenient methods of credit extension to overseas customers and established efficient methods of delivering its products in minimum time, chiefly by using air transport.

Other factors bear on the firm's striking sales success. Tatum Farms owns its own breeders and can therefore promise customers the assurance of consistent quality. The firm has increased the number of its breeder hens five-fold to 125,000 in the past few years. It has had great success in showing its overseas customers how to obtain an average of 80 percent hatchability, which is far above the industry average. And it employs two bilingual secretaries for the convenience of foreign customers. In fact, 20 of its 30 employees deal directly with exporting the Tatum Farms poultry products.

An old exporter expands

About 400 persons were present when Leslie Hubbard, long one of the nation's outstanding poultry leaders, received the "E" award in recognition of Hubbard Farms' achievements in both domestic and foreign trade.

Hubbard Farms has had an interest in the foreign poultry market for a long time. But it has only been in this decade that the growth of air transport has made possible vast expansion in the export field for poultry breeders. Baby chicks can survive well without nourishment for 72 hours after birth; today there is scarcely a place on the globe requiring more travel time than this.

Hubbard Farms began intensive activity in the international market in the early 1960's when a cooperative effort, Hubbard Euro-Poultry, was established in 1962 to serve the Common Market. Today its overseas trade runs well above the million-dollar-mark annually. Subsidiary companies are located in West Germany, the Netherlands, France, and Italy.

Not only has this network of distribution centers made Hubbard poultry breeding stock available to European poultrymen, but it has brought to the industry a broad range of improved techniques in poultry husbandry.

In other nations of the world a network of franchise distributors has been set up for the production and sale of both Hubbard meat and brown egg breeding stock. These operations include countries in Central and South America, in the Near East and Southeast Asia. Hubbard Farms stock is being raised in Japan, the Philippines, Taiwan, and Ceylon; it is being sent to Austria, Portugal, Yugoslavia, Greece, and many other countries. And plans are now being developed to introduce Hubbard poultry to the U.K. market.

The "E" award was granted specifically for accomplishments during 1965 through 1967. During this time Hubbard Farms, Inc., substantially increased exports of their poultry breeding stock on a sustained basis, established subsidiary operations abroad, and entered into many successful franchises and joint venture agreements. Technical management, quality control, and market research were all improved during this time and contributed to the overall sales success.

Today over 20 million chicks are hatched and sold annually, both at home and abroad. Equally impressive is the present Hubbard hatchability rate—80 to 85 percent. In 1964 the new Hubbard Golden Comet, an improved producer of brown table eggs, was introduced, and it is now an important product in overseas distribution. During the next year or two, work toward improving its white egg strain of poultry will hopefully enable the company to introduce this improved product to overseas markets preferring white-shell table eggs.

A growing future for poultry is seen by the men at Hubbard Farms. They believe that poultry is playing an ever-increasing role in the search for new and more efficient methods of expanding protein food supplies because it converts feedgrains into meat and eggs efficiently.

New Multilingual "U.S. Wheat Review"

For some time now, the Rotterdam office of Great Plains Wheat, Inc., has been publishing a monthly newsletter *U.S. Wheat Review* in various languages other than English. The publication is proving to be even more than a far-reaching disseminator of Great Plains reporting on U.S. wheat production and exports. Apparently, judging by mail received from readers, the multilingual presentation has made European customers feel more inclined than before to write in asking questions and requesting information, now that they know their own language will be understood.

This has added a new service to those provided by Great Plains Wheat in Europe. One month, for example, in addition to its normal distribution of crop reports and other responsibilities, the Rotterdam office provided U.S. harvest scenes for a German miller, referred a miller in Spain to U.S. technicians, and clarified the meaning of U.S. inspection certificates for two mills.

Following is an excerpt from the August issue as presented in three of the languages used.

Quality is a prime consideration to importers and the quality of the 1968 HRW crop is excellent.

La qualité est la condition primordiale pour les importateurs. Or, celle de la récolte 1968 de HRW est excellente.

Qualität steht an erster Stelle bei Einfuhr-überlegungen; und die Qualität des Hard Red Winter Weizen 1968 ist ausgezeichnet.

CROPS AND MARKETS SHORTS

Weekly Report on Rotterdam Grain Prices

Between November 6 and November 13, 1968, there was very little change in the offer prices of wheat in Rotterdam. U.S. Hard Winter decreased one cent and USSR 121 was up one cent. All others remained unchanged.

U.S. corn prices advanced 7 cents per bushel and Argentine, 6 cents. South African white was up by one cent.

A listing of the prices follows.

Item	Nov. 6	Nov. 13	A year ago
	Dol. per bu.	*Dol. per bu.*	*Dol. per bu.*
Wheat:			
Canadian No. 2 Manitoba	2.03	2.03	2.08
USSR 121	1.95	1.96	(1)
U.S. No. 2 Dark Northern, Spring 14 percent	1.95	1.95	1.98
U.S. No. 2 Hard Winter, 14 percent	1.97	1.98	1.91
Argentine	1.80	1.80	1.92
U.S. No. 2 Soft Red Winter	1.71	1.71	1.75
Corn:			
U.S. No. 3 Yellow	1.38	1.31	1.37
Argentine Plate	1.45	1.39	1.82
South African White	1.54	1.53	1.50

[1] Not quoted.

Note: All quoted c.i.f. Rotterdam for 30- to 60-day delivery.

Drought Cuts Australia's Pasture Seed Crops

Because of dry weather in late 1967 only 391 tons of certified pasture seed was produced during 1967-68 in Australia. This compares with 2,433 tons harvested during 1966-67 and is the lowest output since 1953-54. Seed production of Hardinggrass, Orchardgrass, Victorian perennial ryegrass, subterranean clover, and medics was greatly reduced. Output of white clover and Palestine strawberry clover seed, both grown under irrigation, was above average. Crop quality, which is particularly important for seed crops, was generally poor as a high proportion of seeds did not fully mature.

Philippine Exports Copra and Coconut Oil

Registered exports of copra from the Philippines during September 1968 totaled 72,500 long tons, a decrease of 8,353 from those a year earlier. Of the total, 29,500 tons moved to the United States compared with 28,852 in September 1967.

Exports of coconut oil in September 1968 totaled 27,178 tons, an increase of 7,190 over last year's. Shipments to the United States were 17,213 tons against 17,257 tons in September 1967.

Cumulative Philippine exports of copra and coconut oil during January-September 1968 totaled 455,754 long tons (oil-equivalent basis)—12 percent below the 518,187 tons exported during the same period a year ago.

Desiccated exports for January-September 1968 totaled 59,761 short tons, with 53,404 moving to the United States. In the same period a year ago exports were 49,689 tons with 37,293 moving to the United States.

PHILIPPINE EXPORTS OF COPRA AND COCONUT OIL

Commodity and destination	September		Jan.-Sept.	
	1967	1968 [1]	1967	1968 [1]
	Long tons	*Long tons*	*Long tons*	*Long tons*
Copra:				
United States	28,852	29,500	179,229	219,093
Europe	44,150	35,750	298,457	171,150
South America	850	0	22,250	5,600
Japan	6,500	7,250	60,951	34,668
Other Asia	501	0	987	500
Total	80,853	72,500	561,874	431,011
Coconut oil:				
United States	17,257	17,213	137,816	154,210
Europe	2,731	9,965	20,667	25,697
Japan	0	0	105	0
Total	19,988	27,178	158,588	179,907

[1] Preliminary.

Associated Steamship Lines, Inc., Manila.

U.S. Exports of Soybeans, Edible Oils, Meals

U.S. exports of soybeans in September—the first month of the 1968-69 marketing year—totaled a record for September of 13.9 million bushels. This is 35 percent, or 3.6 million bushels, above exports in September 1967. The threat of a dock strike and lower prices—due to the exceptionally large harvest—have provided the impetus for this export movement. Exports to Japan, which accounted for over one-third of the total, reached 4.9 million bushels, up 200,000 bushels from a year earlier. Exports to the EEC, which accounted for one-fifth of the total, declined to 2.9 million bushels, a million less than last year's comparable figure.

Exports of soybean and cottonseed oils during the October-September 1967-68 marketing year totaled 1,011 million pounds, or 12 percent less than in 1966-67. Commercial sales, which represented 18 percent of the total, declined by almost one-half compared with the previous year, but exports under Public Law 480 programs, 82 percent of the total, increased slightly.

Soybean oil exports declined to 961.3 million pounds compared with 1,076.3 million in 1966-67. The largest quantity going to any one country was 223.7 million pounds under P.L. 480 to Pakistan, over 50 percent more than the quantity sent there in 1966-67. P.L. 480 program oil moving to Morocco, the Dominican Republic, Israel, South Vietnam, and Chile also rose sharply, but the 195.8 million pounds sent to India represented a decline of 14 percent from the previous year's level.

Cottonseed oil exports dropped to 50.2 million pounds, one-third less than in 1966-67, owing to the short U.S. supply and consequent high prices. About 70 percent of the total went to Venezuela.

The continuing strong world demand for high-protein meal resulted in record U.S. exports of 3.1 million tons of cakes and meals in the marketing year ending September 30. This is

U.S. EXPORTS OF SOYBEANS, EDIBLE OILS, AND OILCAKES AND MEALS

Item and country of destination	Unit	September		September-August	
		1967 [1]	1968 [1]	1966-67 [1]	1967-68 [1]
SOYBEANS					
Belgium-Luxembourg	Mil. bu.	0.4	0.1	8.8	8.7
France	do.	.2	0	2.2	.6
Germany, West	do.	1.7	.7	32.7	32.0
Italy	do.	0	0	18.0	14.8
Netherlands	do.	1.6	2.1	36.0	36.8
Total EEC	do.	3.9	2.9	97.7	92.9
Japan	do.	4.7	4.9	60.7	73.7
Spain	do.	.5	1.5	27.4	29.5
Canada	do.	(2)	1.1	24.2	21.7
Denmark	do.	.6	.9	14.8	15.5
China, Taiwan	do.	.1	1.4	11.0	10.6
Israel	do.	0	0	9.4	9.5
Others	do.	.5	1.2	16.4	13.2
Total	do.	10.3	13.9	261.6	266.6
Oil equivalent	Mil. lb.	113.4	152.6	2,872.3	2,927.0
Meal equivalent	1,000 tons	242.6	326.5	6,147.4	6,264.6
EDIBLE OILS		September		October-September	
Soybean: [3]		1967 [1]	1968 [1]	1966-67 [1]	1967-68 [1]
Pakistan	Mil. lb.	64.2	75.8	146.6	223.7
India	do.	8.2	5.3	228.8	195.8
Tunisia	do.	.1	.1	97.5	96.7
Morocco	do.	1.5	4.5	11.5	54.8
Dominican Republic	do.	.2	1.2	9.4	50.0
Israel	do.	20.7	16.2	32.5	49.4
Vietnam, South	do.	5.1	4.2	29.7	36.7
Chile	do.	.3	14.0	14.1	33.2
Canada	do.	2.5	2.1	21.7	25.1
Brazil	do.	5.7	(2)	28.5	21.0
Poland	do.	0	0	13.8	15.6
Others	do.	20.0	8.2	442.2	159.3
Total	do.	128.5	131.6	1,076.3	961.3
Cottonseed: [3]					
Venezuela	do.	1.9	2.2	30.9	34.9
Canada	do.	.7	.7	8.4	7.6
Japan	do.	(2)	(2)	1.0	1.8
Others	do.	.4	.5	36.1	5.9
Total	do.	3.0	3.4	76.4	50.2
Total oils	do.	131.5	135.0	1,152.7	1,011.5
CAKES AND MEALS					
Soybean:					
Belgium-Luxembourg	1,000 tons	18.5	7.7	221.4	240.7
France	do.	40.2	43.5	431.5	495.4
Germany, West	do.	33.9	15.8	458.1	508.2
Italy	do.	6.7	14.3	192.0	190.5
Netherlands	do.	27.7	32.0	417.9	546.9
Total EEC	do.	127.0	113.3	1,720.9	1,981.7
Canada	do.	22.8	16.9	238.4	227.8
Yugoslavia	do.	4.9	12.1	159.3	113.7
United Kingdom	do.	6.2	5.0	86.1	82.0
Poland	do.	11.5	0	51.2	80.6
Denmark	do.	7.5	0	109.4	66.0
Hungary	do.	0	0	30.3	50.4
Bulgaria	do.	0	0	27.8	41.4
Others	do.	7.2	9.4	233.2	255.8
Total	do.	187.1	156.7	2,656.6	2,899.4
Cottonseed	do.	(4)	.2	7.3	2.9
Linseed	do.	6.4	11.9	93.4	103.7
Total cakes, meals [5]	do.	195.4	177.8	2,788.6	[6] 3,079.3

[1] Preliminary. [2] Less than 50,000 pounds. [3] Includes shipments under P.L. 480 as reported by Census. [4] Less than 50 tons. [5] Includes peanut cake and meal and small quantities of other cakes and meals. [6] Unofficial.

10 percent above the previous record of 1966-67. Soybean meal exports, representing 94 percent of the total, approximated 2.9 million tons against 2.7 million a year earlier. Almost 2.0 million tons moved to the EEC, 15 percent more than in the previous year. Exports to all member countries except Italy rose sharply from levels of a year earlier. Eastern Europe also has become an important market for U.S. soybean meal. Exports in 1967-68 to Poland increased from the previous year by 57 percent, to Hungary by 66 percent, and to Bulgaria by almost 50 percent.

The increase in linseed meal exports more than offset the decline in the already small exports of cottonseed meal.

London's Canned Fruit and Juice Prices

Selling prices in London (c.i.f. unless otherwise indicated) of selected canned fruits and juices are shown in the following table.

Type and quality	Size of can	Price per dozen units			Origin
		Oct. 1967	July 1968	Oct. 1968	
CANNED FRUIT		*U.S. dol.*	*U.S. dol.*	*U.S. dol.*	
Apricot halves:					
Fancy	2½	[1] 3.45	2.82	2.82	South Africa
Choice	2½	[1] 3.59	2.94	2.94	Australia
Do	2½	[1] 3.31	2.70	2.70	South Africa
Not specified	15 oz.	[1] 1.75	1.44	1.44	Spain
Fruit cocktail:					
Choice	303	—	—	2.48	U.S.
Do	2½	[1] 4.18	3.72	3.72	Australia
Fruit salad:					
Choice	15 oz.	[1] 2.24	1.74	1.74	Spain
Peaches, clingstone halves:					
Fancy	2½	[1] 3.62	3.03	3.03	Australia
Do	2½	[1] 3.45	2.82	2.82	South Africa
Choice	2½	[1] 3.46	2.91	2.91	Australia
Do	2½	[1] 3.31	2.70	2.70	South Africa
Pears:					
Fancy	2½	[1] 3.86	3.12	3.12	Australia
Choice	2½	—	—	5.70	U.S.
Do	2½	[1] 3.66	3.00	3.00	Australia
Do	2½	[1] 3.52	2.85	2.85	South Africa
Not specified	15 oz.	—	1.64	1.64	Italy
Pineapple slices:					
Fancy	2½	[1] 4.16	[1] 3.73	[1] 3.73	U.S.
Do	16 oz.	[1] 2.00	1.50	1.68	South Africa
Choice	16 oz.	1.55	1.44	1.44	Malaya
Grapefruit sections:					
No. 2	20 oz.	2.38	2.10	2.34	Israel
CANNED JUICE					
Grapefruit, unsweetened	43 oz.	3.29	2.76	2.97	Israel
Orange, unsweetened	43 oz.	3.43	2.88	3.03	Israel

[1] Landed duty paid.

India Faces Acute Jute Fiber Shortage

The Indian Jute Mills' Association (IJMA) currently estimates the 1968-69 jute and kenaf crops at 5 million bales, down from the previous season's 7.6-million-bale output, owing to smaller acreage and adverse weather conditions. Although this decrease of 2.6 million bales in 1968-69 production appears to be exaggerated, there is no prospect of the harvest exceeding 6 million bales. More recently, this serious crop situation has been aggravated by floods in North Bihar and North Bengal, which caused an interruption in the regular flow of jute to the industrial regions from the major producing area.

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Reduced availability has resulted in a sharp increase in prices. Raw jute Assam Bottoms, the predominant type of jute, is currently quoted at around $244 per metric ton. This is $56 above the mid-July price and the highest since August 1966. Prices of jute goods have also increased but not to the same extent as those for fiber. According to IJMA, the mills are losing about $32 to $39 per metric ton on burlap and sacking at present price levels.

Prospects for importing fiber are not encouraging because harvests in Pakistan and Thailand are also small. India has reportedly purchased 75,000 bales of Pakistani jute and 115,000 of Thai mesta already but is finding it difficult to procure additional supplies as prices are hardening in the exporting countries.

In view of the difficult position of fiber supply and lack of foreign demand for jute goods at prevailing prices, IJMA has urged a week's closure of mills and the introduction of purchase quotas for mills to insure equitable distribution of available fiber supplies and to stabilize jute prices at reasonable levels. Extension through the current season of the 10-percent cut in jute goods production introduced by the association last June has also been proposed.

Swedish Cotton Consumption at Postwar Low

The Swedish textile industry consumed around 75,000 bales (480 lb. net) of raw cotton in 1967-68 (August-July). This is a postwar low and compares with 78,000 bales used in 1966-67 and a 1955-59 average of 134,000 bales. Offtake has declined gradually since the mid-1950's as demand for cotton textiles dropped, and competition from synthetic fibers increased. The domestic industry has also suffered from imports of cotton textiles.

Some segments of the industry are making successful efforts in upgrading their product lines for sale at home and for export. Also, lower priced textiles are being imported for further processing. These efforts to restructure the industry offer grounds for cautious optimism for the future. However, prospects for reversing the trend in cotton consumption do not appear promising. Consumption in the current season is placed at 75,000 bales.

Sweden's cotton imports totaled 87,000 bales in 1967-68, compared with 85,000 in 1966-67. Imports in the current season will probably about equal mill offtake. The United States supplies most of Sweden's raw cotton.

The Swedish Textile Research Institute, a foundation formed in 1943 to promote technical-scientific research concerning textile products, has made a cooperative agreement with the Norsk Tekstilforskiningsinstitut, the Norwegian counterpart, to coordinate textile research between the two countries. The Swedish textile industry has been directing a lot of attention to textile research in both technology and marketing in recent years.

Correction: October 28, 1968, page 15, *Drought Reduces Brazil's Wheat Prospects,* line 3 should read *10* not *15* percent. The yield figures quoted in paragraph 2 should read *1.09, .70, .35, .33,* and *.6* metric tons per acre.

Crops and Markets Index

Cotton

16 Swedish Cotton Consumption at Postwar Low

Fats, Oilseeds, and Oils

14 Philippine Exports of Copra and Coconut Oil
14 U.S. Exports of Soybeans, Edible Oils, Meals

Fruits, Nuts, and Vegetables

15 London's Canned Fruit and Juice Prices

Grains, Feeds, Pulses, and Seeds

14 Weekly Report on Rotterdam Grain Prices
14 Drought Cuts Australia's Pasture Seed Crops

Sugar and Tropical Products

15 India Faces Acute Jute Fiber Shortage

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